

**Summary of the Beach Management Summit
March 11 and 12, 2009
Duke Marine Laboratory
Beaufort, NC**

The North Carolina Coastal Federation and the UNC Center for the Study of Natural Hazards and Disasters, with funding assistance from the North Carolina Beach, Inlet & Waterway Association, convened a Beach Management Summit in Beaufort, North Carolina in March 2009 to discuss emerging threats to the public recreational beach and to evaluate existing oceanfront policies, programs, and regulations. We challenged participants to suggest actions to ensure North Carolina is prepared to address rapid coastal development, coastal storms, and sea-level rise along our oceanfront. The goal of the meeting was to identify a coherent set of policy recommendations that are supported by science and will further the basic policy of North Carolina to protect its oceanfront recreational beaches.¹

Participants in the Summit represented the diverse stakeholders in North Carolina beach policy. All participants had to agree up front that any recommendations should work to promote the fundamental state policy that our public recreational beaches are one of our most important environmental, social and economic assets, and that nothing we recommend as a result of the summit will endanger their continued existence and health. In short, everyone agreed to attend this meeting understanding we would not make recommendations that placed a higher priority on protecting private and public oceanfront developed land uses over the priority of protecting our public trust recreational beaches.

Beyond this one ground rule, the Summit provided an open forum to challenge existing ideas, rules, and programs. We encouraged participants to think creatively, but at the same time remember that if we have learned anything from the past two decades, it is the difficulty inherent when adopting, implementing and enforcing regulatory policies and programs. We pushed participants to be specific and focus their recommendations so they can be acted upon and enacted as policy.

Beach Policy Issues

North Carolina possesses some of the most valuable and beautiful public recreational beaches in the nation. Roughly one-half of the State's 325 miles of oceanfront shoreline is currently developed and is governed by incorporated or unincorporated municipalities or

¹ The following summit participants have endorsed the findings and recommendations contained in this paper as individuals: Ray Burby, Chris Canfield, Matt Converse, Derb Carter, Christopher F. Dumas, Bob Emory, David Godschalk, Jimmy Johnson, Charles Jones, Lauren Kolodij, Rick Luettich, David Marlett, Todd Miller, Charlotte Mitchell, Mack Paul, Preston Pate, Len Pietrafesa, Joe Ramus, Dara Royal, Gregory Rudolph, Harry Simmons, Gavin Smith, Jim Stephenson, Doug Wakeman, J.P. Walsh, Joan Weld, Berry Williams, and Rob Young.

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homeowner organizations. The remaining oceanfront areas are owned either by state, federal or not-for-profit agencies. However, the state is the major steward of the public recreational beach.

The 1974 Coastal Area Management Act (CAMA) and many of the policies adopted in the 1980's have protected the public beach. Forward-looking officials decided that our public recreational beaches should not be degraded to protect private or public oceanfront development. This priority has remained the cornerstone of our oceanfront policy ever since, resulting in more resilient development patterns that are better able to withstand hurricanes and other natural hazards. This approach offers the added potential to protect our public recreational beaches as sea-levels rise over time and the state considers adaptation and relocation strategies.

When these policies were adopted the amount and value of private oceanfront development was low compared to today. Policy-makers knew comprehensive strategies to protect our public recreational beaches were required, and elected to get out in front of oceanfront development trends in order for current and future policies to remain effective. CAMA's progressive policies included: (1) a ban on hard erosion control structures, (2) allowing beach nourishment to protect existing development from erosion, (3) permitting sand bags to provide time to either remove structures imminently threatened by erosion or to protect them while the beach was being renourished; (4) the development of land use plans, (5) the enactment of building setback regulations, and (6) providing funds to buy undevelopable lots for beach access.

Many other proposed ideas were never adopted either by the Coastal Resources Commission or the North Carolina General Assembly, or were compromised to limit their effectiveness. Sufficient funds to buy open space along the ocean were never provided, real estate disclosure requirements were never approved, building setbacks were set at the expected life of mortgages and not buildings, and tighter limitations on public infrastructure that serves high density development in ocean hazard areas never materialized.

Meanwhile, a number of federal and state government programs such as the National Flood Insurance Program, the North Carolina Beach Plan, and FEMA disaster relief aid conflict with the goal of protecting the public beach. This results in increasing conflict between policies that promote protection of the public recreational beach and policies that encourage intense oceanfront development.

The net effect of these mixed policy choices is that they worked to forestall, but not eliminate, serious threats to maintaining public recreational beaches. Building setbacks for example, provided a temporary cushion for oceanfront development and public accesses—but that cushion is disappearing in many places. As the buffer is eaten away by erosion and a general paucity and sometimes mismanagement of sand in the system, public and private oceanfront property owners have become increasingly concerned about their investments.

Rising sea level will make oceanfront management decisions even more challenging in the future. Previous predictions of the range of sea level rise were based upon limited scientific

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knowledge and focused on heat storage in the oceans. These estimates did not consider how additional fresh water due to melting ice would affect sea level. Coastal tide gauges and satellite altimeters now provide direct observations that show that sea level rise is exceeding the uppermost model predictions by the Intergovernmental Panel on Climate Change (established by the World Meteorological Organization and the United Nations Environmental Program). These measurements are now being refined by new federal research that indicates that a three foot rise in sea level over the next 90 years is the minimum increase that can be expected.

In response to an accelerating rise in sea-level and destructive storm events, barrier island systems will increasingly move toward the mainland while inlets will shift over time. This means private and public oceanfront development, which is currently increasing in density and value, will be at even greater risk. These trends, combined with current limitations on funding for beach nourishment, difficulty in finding suitable sand for beach nourishment, and dramatic increases in the costs of insurance, will challenge the state's resolve to protect its public recreational beaches unless North Carolina becomes much more proactive and aggressive in designing and implementing policies to save this precious resource.

Findings and Recommendations

The summit was organized around a set of topics concerning beach policy needs and implementation requirements. Topics included the history of beach policy in North Carolina; the influence of federal and state programs on beach management; the advancement of scientific understanding of beach management issues; and community development and economic trends that effect beach protection.

The key findings from these presentations are as follows:

1. *Current North Carolina beach policies were formulated with the priority of protecting the public recreational beach.* Existing policies and regulations that manage the beachfront of North Carolina were designed with the intent that the public recreational beach should be protected even at the expense of other oceanfront land uses. State policy makers viewed the need to protect the beach for the public trust as paramount.
2. *Many state and federal policies are not coordinated and work at cross purposes with the state's existing priority to protect the public recreational beach.* Some existing federal and state governmental programs do not reinforce the state's goal of public recreational beach protection. North Carolina has not been sufficiently aggressive in its efforts to bring consistency to these programs so that they align with state policies.
3. *Advancements in the scientific understanding of climate, sea-level rise, and the impacts of coastal storms send a clear warning that we are ill prepared to adapt.* These major drivers seriously challenge North Carolina's resolve to protect its public recreational beaches.

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4. *Our ability to predict changes in beaches as a result of these drivers is improving dramatically, but this information has not been adequately used to devise long-term management programs.* The failure to put effective programs in place before they are needed has and will result in short-sighted management decisions that degrade the public recreational beach.
5. *There is a disconnect between short-term and long-term beach management needs as evidenced by community development trends.* The density and size of oceanfront development is increasing even in light of warnings about storm activity and increasing rates of sea-level rise. Building setback distances are inadequate to provide for the long-term protection of our public recreational beaches. The Coastal Resources Commission has modified setback requirements and is waiting for legislative approval of its revised rules.
6. *Protecting the public recreational beaches is compatible with the Coastal Habitat Protection Plan.* The Plan recognizes beach nourishment as an accepted tool for beach protection as long as proper grain size and necessary dredging moratoriums continue to be used to minimize ecological harm to living organisms.

In response to these findings, ***Summit participants believe it is time to refocus state and federal oceanfront management policies and programs so they consistently reinforce the goal of protecting public recreational beaches.*** They recommend two sets of management actions that need to be acted upon immediately.

The first set of recommendations aims at helping coastal communities more effectively protect their beaches and existing oceanfront development by giving them better access to needed management tools and funds. To provide these resources, summit participants decided to:

1. Ask the NC General Assembly to allow the revised setback rules recently adopted by the Coastal Resources Commission to go into effect.
2. Ask the NC General Assembly to enact a ***Family Beach Act*** that places limits on high-rise buildings and other forms of high-density development on the oceanfront, patterned after the height limits adopted by most beach communities. This would prevent beach nourishment projects from encouraging increased building densities along the oceanfront, and give longer term adaptation and relocation strategies more chance to succeed.
3. Ask the Coastal Resources Commission to amend and seek federal approval of the North Carolina Coastal Management Plan to include a specific policy statement that prevents the loss of sand to the beach system as a result of navigational dredging projects.

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4. Ask the Coastal Resources Commission and the NC Division of Coastal Management to take the lead in coordinating state and federal programs that protect our public recreational beaches.
5. Ask the Coastal Resources Commission to strengthen the existing post-disaster reconstruction component found in North Carolina CAMA plans to include an actionable strategy describing how the public recreational beach will be protected through adaptive management strategies that makes them less vulnerable to future coastal hazards.
6. Ask Congress to direct the National Flood Insurance Program to pay for the relocation of threatened structures before they are claimed by the ocean.
7. Ask the NC General Assembly to enact a program that funds and assigns responsibility for removing orphan buildings from the publicly owned beach.
8. Ask the NC General Assembly to allocate adequate resources to ensure the NC Division of Coastal Management has the capacity to enforce sand compatibility standards for all beach nourishment projects.
9. Ask Congress to change funding formulas for beach nourishment so that they place an equal or greater value on environmental, recreational, and public access benefits versus the current emphasis concerning storm damage reduction for structures, which favors higher building densities.
10. Ask the NC General Assembly to work with local governments to identify additional funding and innovative financing strategies for beach nourishment projects that are consistent with the state's strategy for allocating sand resources under the Beach and Inlet Management Plan.
11. Ask the Coastal Resources Commission to ensure the forthcoming Beach and Inlet Management Plan provides a strategy for allocating sand resources and alternative relocation strategies for those beach communities that don't have adequate sand resources to do beach nourishment.

The second set of recommendations aim at enabling landowners as well as local, state and federal agencies to adapt to sea-level rise and storms that will inevitably result in the need to remove or relocate buildings and infrastructure, and over time will result in significant adjustments to land use patterns along the oceanfront in order to protect public recreational beaches. To enable these adaptation and relocation measures to occur in a strategic and orderly manner, summit participants decided to:

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1. Ask the NC General Assembly to mandate and fund operational programs that remove or relocate buildings and infrastructure. These programs need to be designed so that they do not sacrifice public recreational beaches to protect private oceanfront property.
2. Ask Congress to direct National Flood Insurance Program to develop “erosion” insurance that would help landowners self-finance to protect themselves against financial losses associated with coastal erosion.
3. Ask Congress to fund a joint state and federal adaptation study covering Virginia, NC and SC that helps develop relocation and removal strategies using existing authorities of the U.S. Army Corps of Engineers.
4. Request that the NC Division of Emergency Management work with the NC Division of Coastal Management to plan the \$5 million federally funded study on sea-level rise to ensure that it establishes sound adaptation strategies for how beachfront communities can adapt to long-term sea-level rise without degrading their public recreational beaches.
5. Ask the Coastal Resources Commission to identify counterproductive federal or state programs that encourage intense development along the oceanfront and inlet shoreline. These programs should be eliminated or modified to be consistent with the North Carolina Coastal Management Plan, and counterproductive programs should be made ineligible under the Coastal Zone Management Act for federal permits, grants or loans.
6. Ask the Coastal Resources Commission and the NC Division of Emergency Management to integrate post-disaster planning requirements with hazard mitigation planning requirements in one plan that includes the latest scientific understanding of sea-level rise, erosion, and other coastal hazards.
7. Ask the NC General Assembly to make the Coastal Resources Commission the lead entity responsible for coordinating adaptation programs that are designed to relocate and remove land uses that are no longer sustainable.
8. Ask Congress and the NC General Assembly to modify existing programs and develop long-term funding mechanisms to assist communities adapt to changing coastal conditions.
9. Ask the NC General Assembly to establish public policy that limits the use of public funds to rebuild or improve substantially damaged public infrastructure and critical facilities located in coastal v-zones following disasters.

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10. Ask the NC General Assembly to direct the Coastal Resources Commission to develop recommendations for responding to erosion hazards and planning for sea-level rise so that the public recreational beach is always protected.

Conclusion: A Call to Action

It is essential these two sets of recommendations made by summit participants be acted upon quickly and concurrently to provide comprehensive oceanfront management programs that protect the public recreational beach. Summit participants warn that piecemeal application of these ideas will increase the likelihood that management efforts will work at cross-purposes, and undermine the goal of protecting the beach. Participants envision that management programs resulting from these recommendations are not mutually exclusive, but must work in concert to address changing beach conditions responding to sea level rise, storms, and the daily ebb and flow of the ocean. All summit participants stress that protection of the public recreational beach must remain the clear purpose and outcome of all management decisions along North Carolina's oceanfront.

Summit participants believe the effective protection of the public recreational beach can only occur by getting out in front of issues and threats, and not waiting until the beaches are in crisis. North Carolina's beaches are simply too valuable to leave their fate to a reactionary management approach which results in decisions that satisfy no one. Adopting a business as usual approach is not an option if future generations are to continue to benefit from North Carolina's wonderful beaches.